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TABLE OF CONTENTS

FACTORS THAT INFLUENCING THE BEHAVIORAL INTENTION OF SUSTAINABLE WASTE MANAGEMENT ON JUNIOR HIGH SCHOOL STUDENTS IN CITY OF PADANG

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ABSTRACT

The low awareness of the population to implement sustainable waste management behaviors affect the increasing amount of waste in the environment. Sustainable waste management is regarded as an effective measure to reduce the cost of collecting, transporting, and processing of waste. This study aimed to analyze the influence of attitude, subjective norm and perceived behavioral control intention and effect of knowledge on the attitudes towards sustainable waste management behavior. This research is a quantitative research with cross-sectional design. Population is junior high school students in the city of Padang. Samples were taken by proporsionate to size random sampling technique. Analysis of survey data using structural equation modeling (SEM) with AMOS.21 program. The results of this study stated that knowledge influencing students attitudes towards sustainable waste management behavior (CR = 2.067; p = 0.039). Attitudesinfluencingthe the behavioral intention (CR = 3.479; p = 0.001). Subjective norms influencing the the behavioral intention (CR = 5.616; p = 0.001). Perceived behavioral control (PBC) influencing the the behavioral intention of sustainable waste management (CR = 2.532; p = 0.011). Knowledge influencing students attitudes towards sustainable waste management behavior. Attitude, subjective norm and PBC influencing the the behavioral intention of sustainable waste management in junior high school students. Suggested to Padang City Department of Education to incorporate the teaching materials on sustainable waste management in the curricula of environmental education on Junior High School

Keywords: Intention, sustainable waste management, junior high school

INTRODUCTION

The amount of waste as one of the important products of urban lifestyle, growing faster than the numbers of urbanization. Currently, the number of urban population has increased to about 3 billion people who produce 1.3 billion tons of waste per year. It is estimated that in 2025 the urban population will increase to 4.3 billion people and produced 2.2 billion tons of waste per year (World Bank, 2012).

Waste that is not maintained properly not only have a negative impact on the natural environment, but also to the quality of human health (Miller T, 2004). Sustainable waste management (SWM) is considered as an effective measure to reduce the cost of collecting, transporting, and disposing of waste. SWM behavior is defined as efforts to reduce waste (reduce), reusing waste that is suitable to be used (re-use), recycling, and convert the waste into energy source (waste to energi) (Zhou Y, 2010).

Understanding and explain the SWM behavior can use the psychological theory approach on the relationship of attitudes and behaviors, especially a theory that can predict behavior. Theory of Planned Behavior (TPB) developed by Ajzen (1991) widely applied to explain the intention of which is the nearest antesenden of behavior, that the intention or the intention of a person to be a determinant of whether someone will doing or not doing certain behaviors.

According to Ajzen (2005), the the behavioral intention to implement SWM is measured through three determinants. The first determinant related to the individual's attitude towards SWM behavior, The second determinant with regard to how much the perceived social pressure to implement such behavior (subjective norm), and third determinant related to the perception of its controls in relation to the such behavior are referred to as perceived behavioral control (PBC).

Padang as the largest city in West Sumatra, Indonesia facing the problem of waste that needs serious handling, which waste generation continues to increase every year. Based on previous studies reference the average urban waste generation daily in the city of Padang reached 3.050 m3 (784 tons), while only 400 tons / day (51%) of the generated waste can be transported to the landfill. Waste that has not been transported generally accommodated in a temporary disposal container which is located on the edge of the road, the angle fork in the road or a particular road. That condition can lead to negative impacts on the environment, because it creates unpleasant odors, reduce the smoothness of traffic, reducing the beauty of the city, it can even become disease

The establish of a SWM behavior in junior high school students that oriented to sustainable development can be a role model for the SWM behavior in the family and the environment. The influence of attitudes, subjective norms, and PBC towards the the behavioral intention to implement SWM and the influence of knowledge towards attitude towards SWM behavior is a problem that want to be obtain the answered in this study.

METHOD

This research was a cross sectional survey. Based on the purpose and hypothesis of the study determined the variables used in this study. There are five variables: knowledge, attitude, subjective norm, PBC, and the behavioral intentions. Furthermore, the instrument development research done through the study of literature for the variable knowledge and intentions and beliefs elicitation for variable attitude, subjective norm and PBC. Subsequently determined the population, sample and sample size.

Population are all of SMPN 18 and MTsN Model students in the city of Padang. The number of samples in this study were 200 students who calculated the proportion of the hypothesis test formula. Sampling technique with proporsionate to size random sampling.

Data collection was conducted by questionnaire and interview. Inferential analysis in this study using Structural Equation Modeling (SEM). SEM are statistical techniques that allow testing of a relatively complex set of relationships simultaneously.SEM is a combination of factor analysis and regression analysis and applied separately in the factor analysis (Confirmatory Factor Analysis) or simply regression analysis (Sugiyono, 2007). Results of the analysis are interpreted and then concluded in accordance with the purpose of the study and were given advice.

The conceptual framework that explains the relationship between variables in this study is shown in Figure 1.

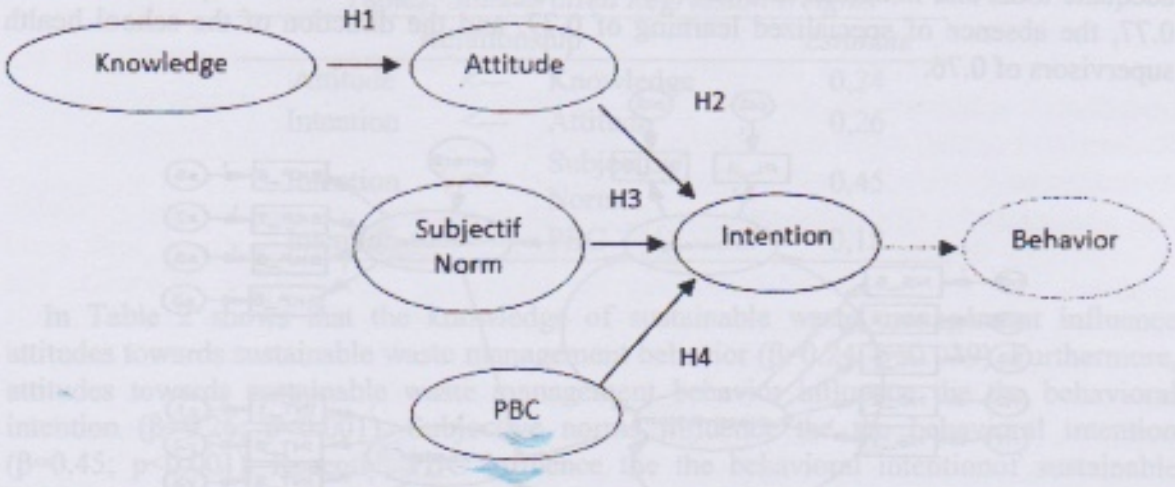

Figure 1. The conceptual framework

1. Measurement Model

The comparative analysis in this study followed the steps of Structural Equation Modelling (SEM). Prior to forming the Full Model SEM, first testing the indicators that formed each of the variables.Testing was done by using confirmatory factor analysis (CFA), which is used to test the validity and reliability of latent variables and indicators. CFA results obtained value of factor loading of items forming the latent variables are less than 0.5 were not included for analysis Full SEM Model. Cronbach's Alpha value of all exceed the limit of 0.7 and acceptance as well as the variance extracted (VE) are all above the acceptance limit of 0.5.Next based on the confirmatory factor analysis, all the indicators for measuring latent variables can be used for subsequent analysis without modifications or adjustments.

2. Structural Model

Structural modeling using SEM to identify variables that relate directly or indirectly to the the behavioral intention or the intention of students to apply or not to implement sustainable waste management behavior.

Figure 2 shows that the largest contribution to the intention of students to implement sustainable waste management behavior given by the subjective norm of 45% ($\beta = 0.45$), followed by the attitude of 26% ($\beta = 0.26$), and the lowest contribution is PBC at 18% ($\beta = 0.18$).

Attitude towards sustainable waste management behavior is determined by four indicators. Based on modeling results, respectively the largest load factor is the statement that sustainable waste management takes time to learn by 0.93, making the school environment becomes narrower by 0.72, causing the school uniform to be dirty by 0.70, and the latter requires a lot of energy 0.64.

Subjective norm means that the people who are considered influential by students to apply or not to implement sustainable waste management behavior. Based on modeling results, load factors ranging from the largest is the teachers grade of 0.89, followed by the headmaster was 0.78, and friends who disciplined and good behavior of 0.67, a parent at 0.65 , and school guard of 0.45.

PBC is determined by eight indicators. Based on modeling results, students' perception of their ability to control the factors that facilitate or are difficult to implement sustainable waste management behavior, respectively the top four according to the load factor is:

adequate tools and materials of 0.82, followed by lack of funds for the implementation of 0.77, the absence of specialized learning of 0.77, and the direction of the school health supervisors of 0.76.

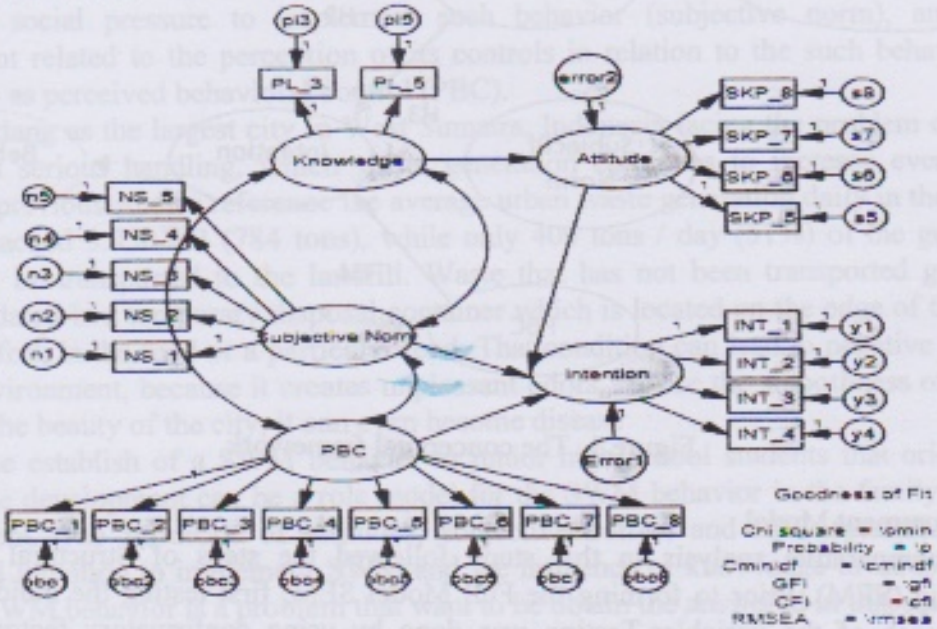

Figure 2. Stuctural Models

3. Hypothesis test

Testing the hypothesis of causality developed in the behavioral intention model of sustainable waste management is performed by t test commonly used in the regression models. The following table shows the values of the critical ratio / CR (in the analysis of SEM with AMOS, CR value identical to the value t in the regression analysis).

In table 1 shows that the whole causal relationship between endogenous with exogenous variable has a value of CR> 1.96 using a 5% significance level. So all the null hypothesis (H0) proposed in this study was rejected. From the results of this study concluded that there is the influence of knowledge on attitude (H1), there is the influence attitudes toward the behavioral intention (H2), there is the influence of subjective norms on the behavioral intention (H3), and there is the influence of PBC on the behavioral intention (H4).

Table1. hypothesis testing

The Influence			*Estimate*	*S.E.*	*C.R.*	*p-value*
Attitude	<---	Knowledge	0,40	0,19	2,07	0,039
Intention	<---	Attitude	0,21	0,06	3,48	0,001
Intention	<---	Subjective Norm	0,40	0,07	5,62	0,001
Intention	<---	PBC	0,16	0,06	2,53	0,011

Large of contributions and direction of the relationship can be seen from the Standardized Regression Weights in full model as shown in the table below.

Table2. *Standardized Regression Weights*

Relationship			*Estimate*
Attitude	<---	Knowledge	0,24
Intention	<---	Attitude	0,26
Intention	<---	Subjective Norm	0,45
Intention	<---	PBC	0,18

In Table 2 shows that the knowledge of sustainable waste management influence attitudes towards sustainable waste management behavior (β=0.24; p=0.039). Furthermore, attitudes towards sustainable waste management behavior influence the the behavioral intention (β=0.26; p<0.001). Subjective norms influence the the behavioral intention (β=0.45; p<0.001). Recently, PBC influence the the behavioral intentionof sustainable waste management by (β=0.18; p=0.011).

DISCUSSION

The rationale of this study was to scan and observe determinants of the behavioral intention of sustainable waste management and also to ensure the relative strength of each determinant factors which consists of attitudes, subjective norms, and perceived behavioral control. This study also discusses the influence of knowledge about sustainable waste management behavior towards attitudes towards sustainable waste management behavior. Overall, the study was conducted by using the theoretical framework of theory of planned behavior to understand the differences contributions of determinants of the behavioral intentionof sustainable waste management in a single framework that at its peak led to a sustainable waste management behavior. The results of the structural model shows a good of fit (fit) based on the value of goodness of fit is generated.

The results of this study stated that knowledge about sustainable waste management behavior influence on attitudes towards sustainable waste management behavior. These results are consistent with theoretical assumptions of theory of planned behavior and in line with the findings obtained by Ramayah et a!(2012), which explores the behavior of recycled environmentally conscious by using the theory of planned behavior.

These results are also consistent with the results of the study of Kumar(2012) which states that the environmental knowledge related to attitudes towards environmentally friendly products. Communication and education efforts to increase knowledge on issues relating to environmental concerns has been effective in encouraging the disposition of behavior that is considered good for the natural environment (Sidique SF, 2010).These results also support findings Cheung et al(1999)that found a general knowledge of the environment can significantly predict the behavior of recycled paper.

The results of this study stated that the subjective norm influence the behavioral intention of sustainable waste management. Subjective norm which refers to perceived social demands to perform or not perform certain behaviors found to influence the the behavioral intention to implement sustainable waste management. These results are consistent with the theoretical assumptions of the theory of planned behavior by Ajzen (2005) which states that the subjective norm as a determinant factor to apply or not to apply certain behaviors. This result is consistent with findings of researchers previously stated that the subjective norm has a significant relationship with the intention as reported by some previous researchers(Kumar B, 2012; Cheunget.al, 1999; Chaisamrej R,2006).

The results of this study stated that perceived behavioral control (PBC) influence the the behavioral intention to implement sustainable waste management. These findings support the assumption in the theory of planned behavior by Ajzen (2005) that the intention is influenced by the PBC. This result is in line with the results of research Kumar(2012) which states that PBC had a significant association with the intention to buy environmentally friendly products.

Overall the model that uses the framework of the planned behavior theory capable to explaining the the behavioral intention of sustainable waste management with good approach with simple and adequate way for developing countries like Indonesia. The feasibility of the planned behavior theory is consistent with the findings of Kumar (2012) and Ramayah et all(2012). There is a dearth of research that studies the relationship of environmental knowledge with attitudes towards environmental issues in the context of Indonesia even though the same thing has been studied in geographical conditions such as in Malaysia. The study also managed to fill this gap.

CONCLUSION

Based on analysis of determinants of the the behavioral intention of sustainable waste management in junior high school students in the city of Padang, be concluded that the knowledge on sustainable waste management influence the attitudes towards of sustainable waste management. Attitudes towards sustainable waste management behavior, subjective norms, and perceived behavioral control influence the the behavioral intention of sustainable waste management. Structural model of the the behavioral intention of sustainable waste management at junior high school students in Padang have good psychometric value (valid, reliable, and modeling fit).

The study provides a theoretical and practical implications how the knowledge influences attitudes towards sustainable waste management behavior and how attitudes, subjective norms, and PBC influences the the behavioral intention sustainable waste management. In an effort to implement sustainable waste management behavior in junior high school students, local governments must pay attention to the determinants of the the the behavioral intention and its indicators.

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